

CONCLUSION, RAMIFICATIONS AND SCOPE

[0157] This patent covers several important concepts and features that improve the operation of both mantle and open flame automatic gaslights. A primary improvement is an integrated igniter/solenoid valve/burner and spark probe that is plugged into a quick connect receptacle in the gaslight base and can be easily exchanged without tools, similar to replacing a light bulb. This plug-in feature also includes dimmer controlled gaslight mantle burners and manual mantle burners. This feature will revolutionize the way that gaslights with igniters or dimmers are designed, fabricated, installed and maintained. Because of the wide distribution of gaslight installations, it is not practical to send a trained technician out to an installation to service a gaslight. The traffic congestion and miles to be driven are prohibitive. Travel time for the technician is also costly. Weather conditions do not always cooperate either.

[0158] Gaslights are not as numerous as electric lights and there is not enough technical work to support a dedicated technician in a smaller area or suburb. Training technicians to service and maintain existing gaslights with igniters that have components distributed throughout the gaslight is not practical as it usually requires removal of the entire gaslight and disassembly of the igniter installation. Experience shows that reassembling the gaslight is problematic in that more damage may be done during reassembly than that originally encountered. By making the automatic igniter/burner a plug-in unit, the home owner or a relatively untrained technician can change out a defective igniter/burner and return it to the shop, depot or manufacturer for service and repair. Spare igniters or manual plug-in burners can provide interim gaslight operation. Dimmer controlled burners may also be plug-in assemblies.

[0159] This invention also defines a multipurpose igniter potting box that can be used for custom installations where the application does not allow plug-in operation. An example is the use of the igniter for an eternal flame light in a synagogue where aesthetics are the primary concern. Another is an igniter installed in the top of a post for customers that desire such installation. It should be noted that the plug-in igniter/burner is one configuration of the multi-purpose potting box.

[0160] There are several other features of this invention that have proven to be significant improvements over other implementations now in use in the industry. One is the side ignition burner that provides reliable ignition and prevents soot build up, even with propane burners, while still maintaining the ion flame sensor capability.

What is claimed is:

1. An automatic igniter/open flame burner apparatus for gaslights comprising an electronically controlled igniter, solenoid valve, open flame burner and spark probe wherein said apparatus turns on the gaslight in the evening and turns off said gaslight in the morning and as timing is preset.

2. The apparatus of claim 1 wherein said igniter, solenoid valve, open flame burner and spark probe are integrated into a single unit that is installed within the gaslight head using a quick connect fitting and said apparatus is easily changed without tools.

3. The apparatus of claim 1 wherein a direct wire probe with the spark emanating from the side of said direct wire

probe tangent to the burner slit provides a means to reliably light the flame and to prevent soot build-up on said probe and said burner.

4. Apparatus as set forth in claim 1 wherein a wire spark probe is attached to the burner stem using a ceramic tube and block with said spark emanating from the tangent point of said wire spark probe to the side of said burner slit.

5. Apparatus as set forth in claim 1 wherein said direct wire probe sparks to a small pin-hole pilot burner located on the tip of said open flame burner near said burner slit wherein the spark emanates from the tangent point of said wire probe to said pin-hole pilot burner with said wire probe extending through the flame to provide ion flame sensing.

6. Apparatus in claim 1 wherein a single potting box comprising a gaslight igniter printed circuit board can be reconfigured to adapt to most gaslight igniter installations.

7. The potting box of claim 6 wherein said gaslight igniter is installed in the top of said lamp post with a manual gas valve holding said potting box and said burner in place.

8. The potting box of claim 6 wherein said solenoid valve is attached to the side of said potting box for installation in the base of said gaslight head.

9. The potting box of claim 6 wherein said solenoid valve is attached to the bottom of said potting box as a means of installing said apparatus of claim 1 in a very narrow gaslight head.

10. The potting box of claim 6 wherein said potting box ear is bent to hold said solenoid valve in position for several other configurations and installations.

11. A method of igniting two gaslight burners from a single igniter comprising two open flame burners, two probes, an igniter and solenoid valve.

(a) a method of generating sparks across the tip of said two burners by connecting the high voltage wire in series to said two spark probes.

(b) a method of assuring that said two burners light by using two photo-sensors in series with each sensor viewing one flame only.

(c) a method of assuring that the high voltage spark at said first burner is not shorted to burner ground after lighting due to ionized gas effect through said first burner stem by using an insulating coupler thus assuring that said second burner is ignited.

12. The apparatus of claim 1 wherein an automatic igniter/mantle burner apparatus for gaslights comprising an electronically controlled igniter, solenoid valve, mantle burner and spark probe.

(a) a method to assure that multiple mantles light, comprising a small pilot burner with multiple holes drilled in the top of said burner tube with a pilot burner ring mounted over said holes to expedite lighting from said spark probe to said pilot burner ring.

(b) a method of assuring that two mantles light, using two photo-sensors wired in series with each photo-sensor viewing only one mantle, such that sparking continues until said two mantles light.

(c) a method of using a direct wire probe from said igniter to said mantle pilot burner ring to transmit said high voltage spark to ignite said pilot burner.

13. The apparatus of claim 12 wherein said igniter, solenoid valve, mantle burner and probe are integrated into